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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,207	09/01/2004	Jeffrey R. Martin	FLWP101US	5206

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EXAMINER	
KRISHNAMURTHY, RAMESH	
ART UNIT	**PAPER NUMBER**
3753	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/711,207	MARTIN ET AL.	
	Examiner	Art Unit	
	/Ramesh Krishnamurthy/	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This office action is responsive to communications filed 04/12/2007.

Claims 1 – 26 are pending.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 12, 2007 has been entered.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 10 recites the limitation "said oil" in line 1. There is insufficient antecedent basis for this limitation in the claim.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

> only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1 – 6, 8 – 12, 14, 16 – 22, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by McNeely (US 5,027,852) or, in the alternative, under 35 U.S.C. 103(a) as obvious over McNeely (US 5,027,852) in view of Greenwood et al. (US 3,913,885).

McNeely discloses (Fig. 1, for example) a surge relief valve comprising: a main valve body (16) comprising a dome port (36) and an inlet port (24) wherein said inlet port is in fluid communication with a first fluid and an outlet port (26); a dome reservoir (106) connected to said main valve body but disposed remotely therefrom via said dome port and arranged to hold a second fluid that could be Nitrogen; a piston (28)

located in said main valve body and comprising a piston in fluid communication with said reservoir, wherein said first fluid exerts an upward force on said piston, said second fluid exerts a downward force on said piston, and said piston is arranged to move in response to a differential in said upward and downward forces, wherein said first and second fluids are isolated from one another. A self-relieving pressure regulator (108) is connected to the main valve body via the dome reservoir (106). McNeely discloses a piping arrangement (106, 110) with a first end connected to the dome reservoir (106) and a second connected to the dome port (36). The disclosure of McNeely is applicable to all types of first fluid including a process fluid that is a liquid that could further be either oil or petroleum oil.

It is noted that the arrangement disclosed by McNeely necessarily performs the method recited in claims 17 – 22 in its usual and normal operation.

It is noted that in McNeely the "sealing ring" necessarily contacts the piston/cylinder surface in order to provide the sealing function therebetween. Thus, the contact between the surfaces involves friction that necessarily provides dampening of the piston movement. However, should it be determined that ring is not a dampening ring, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a dampening wedge ring as taught by Greenwood et al. (wedge ring (60)) for the purpose of providing the desired dampening i.e. stabilized movement of the piston. It is noted that the sealing ring in McNeely is a wedge-shaped ring. However, should it be determined that such is not the case, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have

provided in McNeely a wedge-shaped ring for the purpose of obtaining a desired dampening of the piston movement, as taught by Greenwood et al.

9. Claims 1 – 6, 8 – 15, 17 – 22 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Kugelev et al. (US 6,978,799) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kugelev et al. (US 6,978,799) in view of Greenwood et al. (US 3,913,885).

Kugelev et al. discloses (Figs, 1 - 4) a surge relief valve comprising: a main valve body (13) comprising a dome port (33) and an inlet port (15) wherein said inlet port is in fluid communication with a first fluid and an outlet port (17); a dome reservoir (47) connected directly to said main valve body via said dome port and arranged to hold a second fluid that could be Nitrogen; a piston (25) located in said main valve body and comprising a piston in fluid communication with said reservoir, wherein said first fluid exerts an upward force on said piston, said second fluid exerts a downward force on said piston, and said piston is arranged to move in response to a differential in said upward and downward forces, wherein said first and second fluids are isolated from one another. A self-relieving pressure regulator (Fig. 1) is connected to the main valve body via the dome reservoir (47). Kugelev et al. discloses a piping arrangement (55, 73) with a first end (73) connected to the dome reservoir (47) and a second connected to the dome port (33). The disclosure of Kugelev et al. is applicable to all types of first fluid including a process fluid that is a liquid which could further be either oil or petroleum oil (See Col. 1, lines 22 – 30, for example).

It is noted that the arrangement disclosed by Kugelev et al. necessarily performs the method recited in claims 17 – 22 in its usual and normal operation.

It is noted that in Kugelev et al. the "sealing ring" (29) necessarily contacts the piston/cylinder surface in order to provide the sealing function therebetween. Thus, the contact between the surfaces involves friction that necessarily provides dampening of the piston movement. However, should it be determined that ring (29) is not a dampening ring, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a dampening wedge ring as taught by Greenwood et al. (wedge ring (60)) for the purpose of providing the desired dampening i.e. stabilized movement of the piston.

10. Claim 24 is rejected under 35 U.S.C. 103(a) as obvious over Kugelev et al. (US 6,978,799) in view of Greenwood et al. (US 3,913,885).

The patent to Kugelev et al. discloses the claimed invention with the exception of explicitly disclosing the dampening ring to be recessed into the piston. In Kugelev et al. the dampening ring is recessed into the wall of the cylinder in which the piston (25) slides.

Greenwood et al. teaches the use of a wedge ring (60) recessed into the piston (24) for the purpose of dampening the movement of the piston.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Kugelev et al. the ring (29) to be recessed into the piston for the purpose of providing a desired dampening in the movement of the piston. In this connection, it should be noted that the provision of the ring (29) in the piston as

opposed to providing it in the wall about which the piston slides is a mere reversal of parts that the courts have generally held to be an expedient that is obvious to one of ordinary skill in the art. *In re Gazda*, 219 F.2d 449, 104 USPQ 400 (CCPA 1955).

11. Claims 7 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by McNeely (US 5,027,852) or, in the alternative, under 35 U.S.C. 103(a) as obvious over the combination of McNeely and Greenwood et al. as set forth above and further in view of Steinert et al. (US 5,174,326).

The patent to McNeely discloses a pressure regulator (108) that is believed to maintain the second fluid at a specified pressure in response to changes in ambient temperature, since the pressure regulator is stated (Col. 4, lines 10 - 12) to provide a constant pressure wherein the provision of a constant pressure is taken here to include all known conditions including the commonly encountered ambient temperature changes.

However, should it be determined that the pressure regulator (108) in McNeely or in the combination of McNeely and Greenwood et al., does not maintain the second fluid at a specified pressure in response to changes in ambient temperature, it would have been obvious to provide such a feature since such is essential in using the system of McNeely or that of McNeely and Greenwood et al., under conditions where ambient temperatures could change, as evident from Steinert et al.

12. Claims 7 and 23 are rejected under 35 U.S.C. 102(e) as anticipated by Kugelev et al. (US 6,978,799) or, in the alternative, under 35 U.S.C. 103(a) as obvious over the

combination of Kugelev et al. and Greenwood et al. as set forth above and further in view of Steinert et al. (US 5,174,326).

The patent to Kugelev et al. discloses a pressure regulator (Fig. 1) that is believed to maintain the second fluid at a specified pressure in response to changes in ambient temperature, since the pressure regulator is stated (Col. 5, lines 63 - 65) to provide a constant pressure which here is taken to include under all known conditions including the commonly encountered ambient temperature changes.

However, should it be determined that the pressure regulator (Fig. 1) in Kugelev et al. does not maintain the second fluid at a specified pressure in response to changes in ambient temperature, it would have been obvious to provide such a feature since such is essential in using the system of Kugelev et al. or the system of Kugelev et al. and Greenwood et al. under conditions where ambient temperatures could change as evident from Steinert et al.

13. Claim 26 is rejected under 35 U.S.C. 103(a) as obvious over McNeely or the combination of McNeely and Greenwood et al. as set forth above and further in view of Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

The patent to McNeely or combination of McNeely and Greenwood et al. as set forth above discloses the claimed invention with the exception of explicitly disclosing the dampening ring to be made of graphite filled polytetrafluoroethylene (PTFE).

Geffroy teaches (Col. 2, lines 51 – 57) the use of graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Doose teaches (Col. 1, lines 30 – 40) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Scarlett teaches (Col. 2, lines 20 – 24) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in McNeely or in the combination of McNeely and Greenwood et al. a dampening ring to be made of graphite filled polytetrafluoroethylene for the purpose of providing desired material properties capable of withstanding the operational conditions, as recognized by either Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

14. Claim 26 is rejected under 35 U.S.C. 103(a) as obvious over Kugelev et al. or the combination of Kugelev et al. and Greenwood et al. as set forth above and further in view of Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

The patent to Kugelev et al. or combination of Kugelev et al. and Greenwood et al. as set forth above discloses the claimed invention with the exception of explicitly disclosing the dampening ring to be made of graphite filled polytetrafluoroethylene (PTFE).

Geffroy teaches (Col. 2, lines 51 – 57) the use of graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Doose teaches (Col. 1, lines 30 – 40) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Scarlett teaches (Col. 2, lines 20 – 24) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Kugelev et al. or in the combination of Kugelev et al. and Greenwood et al. a dampening ring to be made of graphite filled polytetrafluoroethylene for the purpose of providing desired material properties capable of withstanding the operational conditions, as recognized by either Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

Response to Arguments

15. Applicant's arguments filed 04/12/2007 have been fully considered but they are not persuasive.

16. Applicant's arguments concerning the reference to Lai is moot in view of the new grounds of rejection set forth above.

17. Applicant's arguments concerning the dampening ring have been noted. Applicant's argument that the dampening ring (312) is disclosed in addition to the sealing rings (311, 313) whereas Kugelev et al. teaches only "sealing rings" is unpersuasive. In Kugelev, the sealing ring(s) necessarily contact the piston/cylinder surface in order to provide the sealing function. Thus, the contact between the surfaces

involves friction that necessarily provides dampening of the piston movement. As for the existence of sealing rings in addition to the dampening ring in the instant invention, it is noted while such is disclosed in the specification the sealing rings are not presently recited in the claims rendering moot any argument(s) related thereto.

18. Regarding the argument that in Kugelev, the second fluid provides both upward and downward force on the piston whereas in the instant invention the second fluid exerts a downward force only on the piston is unpersuasive in that the limitation in claim 17 pertains to a downward force being exerted solely by a second fluid that is met by Kugelev et al. In regard to the combination of Kugelev et al. with Greenwood et al., it is noted that it is teaching of Greenwood et al. concerning the use of wedge ring that is relevant to the combination.

19. Regarding the other references – Steinert et al., Geffroy, Doose and Scarlett -, it is noted that the response does not address the teachings in these references that have been relied upon in formulating some of the rejections set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel, can be reached on (571) 272 – 4929. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ramesh Krishnamurthy/
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Art Unit 3753